

AMENDMENTS

In the Claims

Please amend claims 1, 13, 25, 27, 36, 45, and 52 as shown herein.

Claims 1-56 are pending and are listed following:

1. **(currently amended)** A method, comprising:
receiving multiple streams of audio wave data in response to requests from audio wave data consumers;
dynamically defining generating a plurality of logical buses in response to a need associated with receiving the streams of audio wave data, the logical buses each corresponding to an audio wave data consumer;
assigning at least one of the multiple streams of audio wave data to a plurality of the logical buses;
routing any audio wave data stream assigned to a particular logical bus to the audio wave data consumer corresponding to said particular logical bus; and
dynamically deallocating releasing at least one of the logical buses when no longer needed to route a stream of audio wave data.

2. **(original)** A method as recited in claim 1, further comprising generating the streams of audio wave data in response to receiving a synthesizer instruction.

1 3. (original) A method as recited in claim 1, wherein a plurality of
2 audio wave data streams are assigned to at least one of the logical buses.

3
4 4. (original) A method as recited in claim 1, wherein each logical
5 bus corresponds to a single audio wave data consumer.

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7 5. (original) A method as recited in claim 1, wherein at least two of
8 the logical buses correspond to the same audio wave data consumer.

9
10 6. (original) A method as recited in claim 1, wherein the audio
11 wave data consumer is a data buffer that performs an action of buffering audio
12 wave data prior to outputting the audio wave data.

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14 7. (original) A method as recited in claim 1, wherein the audio
15 wave data consumer performs an action of effects-processing the audio wave data
16 prior to outputting the audio wave data.

17
18 8. (original) A method as recited in claim 1, wherein said assigning
19 comprises creating a data structure and correlating the logical buses with
20 corresponding audio wave data consumers.

1 9. (original) A method as recited in claim 1, wherein said assigning
2 comprises creating a data structure and correlating the logical buses with
3 corresponding audio wave data consumers, and wherein said routing comprises
4 referring to the data structure.

5
6 10. (original) A method as recited in claim 1, wherein said defining
7 comprises instantiating a programming object to receive the multiple streams of
8 audio wave data.

9
10 11. (original) A method as recited in claim 1, wherein said defining
11 comprises instantiating a programming object to receive the multiple streams of
12 audio wave data, and wherein said routing comprises calling an interface of the
13 programming object.

14
15 12. (original) One or more computer-readable media comprising
16 computer-executable instructions that, when executed, direct a computing system
17 to perform the method of claim 1.

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1 **13. (currently amended)** An audio generation system, comprising:
2 a plurality of audio wave data sources that produce one or more streams of
3 audio wave data;
4 a plurality of audio wave data consumers that receive one or more of the
5 streams of audio wave data;
6 a software component that dynamically defines generates logical buses in
7 response to a need associated with receiving the streams of audio wave data and
8 that deallocates releases at least one of the logical buses when no longer needed,
9 the logical buses corresponding respectively to the plurality of audio wave data
10 consumers; and
11 the software component configured to receive one or more of the streams of
12 audio wave data at each of the defined generated logical buses, and route any
13 audio wave data that is received at a particular logical bus to an audio wave data
14 consumer corresponding to said particular logical bus.

15
16 **14. (original)** An audio generation system as recited in claim 13,
17 wherein each logical bus corresponds to a single audio wave data consumer.

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19 **15. (original)** An audio generation system as recited in claim 13,
20 wherein at least two of the logical buses correspond to the same audio wave data
21 consumer.

1 **16. (original)** An audio generation system as recited in claim 13,
2 wherein a plurality of audio wave data streams are assigned to at least one of the
3 logical buses.

4
5 **17. (original)** An audio generation system as recited in claim 13,
6 wherein an audio wave data consumer is a data buffer that buffers one or more of
7 the streams of audio wave data.

8
9 **18. (original)** An audio generation system as recited in claim 13,
10 wherein an audio wave data consumer effects-processes one or more of the
11 streams of audio wave data.

12
13 **19. (original)** An audio generation system as recited in claim 13,
14 wherein an audio wave data consumer is a data buffer that buffers one or more of
15 the streams of audio wave data and effects-processes the buffered audio wave
16 data.

17
18 **20. (original)** An audio generation system as recited in claim 13,
19 wherein the sources are software components.

20
21 **21. (original)** An audio generation system as recited in claim 13,
22 wherein the sources are programming objects having interfaces that are callable by
23 a software component to generate the one or more streams of audio wave data.

1 **22. (original)** An audio generation system as recited in claim 13,
2 wherein the sources include one or more synthesizers that generate the one or
3 more streams of audio wave data.
4

5 **23. (previously presented)** An audio generation system as recited in
6 claim 13, wherein the sources include a plurality of synthesizers that generate the
7 one or more streams of audio wave data, wherein at least one of the synthesizers
8 generates a plurality of outputs, and wherein respective ones of the outputs are
9 provided to different respective logical buses.

10 **24. (original)** An audio generation system as recited in claim 13,
11 wherein the sources include a plurality of synthesizers that generate the one or
12 more streams of audio wave data.
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1 **25. (currently amended)** An audio generation system, comprising:
2 a synthesizer that generates multiple streams of audio wave data;
3 a plurality of audio wave data consumers that receive the multiple streams
4 of audio wave data;

5 a software component that defines dynamically generates a plurality of
6 logical buses in response to a need associated with receiving the multiple streams
7 of audio wave data, an individual logical bus configured to correspond to an audio
8 wave data consumer, receive one or more of the streams of audio wave data, and
9 route the one or more streams of audio wave data to the audio wave data
10 consumer; and

11 wherein the synthesizer is configured to route at least one of the streams of
12 audio wave data to different ones of the logical buses.

13
14 **26. (original)** An audio generation system as recited in claim 25,
15 wherein a second logical bus is configured to correspond to the audio wave data
16 consumer, receive one or more additional streams of audio wave data, and route
17 the one or more additional streams of audio wave data to the audio wave data
18 consumer.

1 **27. (currently amended)** An audio generation system as recited in
2 claim 25, wherein the synthesizer has a channel that generates a stream of audio
3 wave data and that is configurable to route the stream of audio wave data to the
4 individual logical bus, ~~and wherein the software component is configured to define~~
5 ~~the logical buses dynamically in response to a need associated with receiving the~~
6 ~~streams of audio wave data, and is further configured to dynamically deallocate~~
7 ~~release at least one of the logical buses when no longer needed.~~

8
9 **28. (original)** An audio generation system as recited in claim 25,
10 wherein the synthesizer has a channel that generates a stream of audio wave data
11 and that is configurable to route the stream of audio wave data to a plurality of the
12 logical buses, and wherein the logical buses receive the stream of audio wave data
13 and route the stream of audio wave data to a plurality of corresponding audio wave
14 data consumers.

15
16 **29. (previously presented)** An audio generation system as recited in
17 claim 25, wherein the synthesizer has a plurality of channels that each generate a
18 stream of audio wave data and that are configurable to route at least one of the
19 streams of audio wave data to a plurality of the logical buses, and wherein the
20 logical buses receive the streams of audio wave data and route the streams of
21 audio wave data to a plurality of corresponding audio wave data consumers.

1 30. (original) An audio generation system as recited in claim 25,
2 wherein the synthesizer generates a stream of audio wave data in response to a
3 synthesizer instruction.

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5 31. (original) An audio generation system as recited in claim 25,
6 wherein the synthesizer generates a stream of audio wave data in response to a
7 MIDI instruction.

8
9 32. (original) An audio generation system as recited in claim 25,
10 further comprising a second synthesizer to generate additional streams of audio
11 wave data, and wherein the individual logical bus is configured to receive one or
12 more of the additional streams of audio wave data and route the additional streams
13 of audio wave data to the audio wave data consumer.

14
15 33. (original) An audio generation system as recited in claim 25,
16 further comprising a second synthesizer to generate additional streams of audio
17 wave data, and wherein a second logical bus is configured to correspond to the
18 audio wave data consumer, receive one or more of the additional streams of audio
19 wave data, and route the additional streams of audio wave data to the audio wave
20 data consumer.

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22 34. (original) An audio generation system as recited in claim 25,
23 further comprising a data structure to correlate which of the logical buses
24 correspond to an audio wave data consumer.

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2 **35. (original)** An audio generation system as recited in claim 25,
3 further comprising a data structure to correlate which of the logical buses
4 correspond to an audio wave data consumer, wherein the audio wave data
5 consumer receives streams of audio wave data from the corresponding logical
6 buses.
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8 **36. (currently amended)** A system, comprising:
9 a plurality of logical bus objects configured to receive audio wave data,
10 wherein each logical bus object corresponds to an audio wave data consumer,
11 wherein each logical bus object is dynamically ~~allocated~~ generated in response to a
12 need associated with receiving the audio wave data, and wherein at least one of the
13 logical bus objects can be dynamically ~~deallocated~~ released when no longer
14 needed to route a stream of audio wave data;
15 a data structure that correlates each logical bus object according to a
16 function of an audio wave data consumer that corresponds to a logical bus object;
17 and
18 wherein one or more streams of audio wave data are assigned to a logical
19 bus object based on the function of an audio wave data consumer that corresponds
20 to the logical bus object.

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22 **37. (original)** A system as recited in claim 36, wherein a logical bus
23 object receives one or more of the assigned audio wave data streams and routes the
24 audio wave data streams to the corresponding audio wave data consumer.
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2 **38. (previously presented)** A system as recited in claim 36, further
3 comprising a synthesizer that generates a plurality of streams of audio wave data,
4 wherein at least one of the streams of audio wave data is provided to different
5 respective logical buses.

6
7 **39. (original)** A system as recited in claim 36, further comprising a
8 synthesizer that generates the one or more streams of audio wave data in response
9 to a MIDI instruction.

10
11 **40. (original)** A system as recited in claim 36, further comprising an
12 audio wave data generation object configured to receive audio content and an
13 instruction to generate the one or more streams of audio wave data.

14
15 **41. (original)** A system as recited in claim 36, wherein each logical
16 bus object corresponds to a single audio wave data consumer.

17
18 **42. (original)** A system as recited in claim 36, wherein at least two
19 of the logical bus objects correspond to the same audio wave data consumer.

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21 **43. (original)** A system as recited in claim 36, wherein a plurality of
22 audio wave data streams are assigned to at least one of the logical bus objects.

1 **44. (previously presented)** A data structure for an audio processing
2 system, comprising:

3 a bus identifier parameter to uniquely identify a logical bus that
4 corresponds to an audio wave data consumer;

5 a function identifier parameter to identify an effects-processing function of
6 the audio wave data consumer;

7 a programming reference to identify the audio wave data consumer; and

8 wherein at least one stream of audio wave data is routed to a plurality of
9 different logical buses, with the bus identifier parameter being defined according
10 to the function identifier parameter of the corresponding audio wave data
11 consumer.

12 **45. (currently amended)** A method, comprising:

13 providing an audio wave data generation component configured to receive
14 audio content and an instruction to generate one or more streams of audio wave
15 data;

16 providing an audio wave data consumer component configured to receive
17 the one or more streams of audio wave data;

18 dynamically providing generating at least one logical bus component in
19 response to a need associated with receiving the streams of audio wave data, the
20 logical buses configured to route the one or more streams of audio wave data to
21 the audio wave data consumer component; and

22 dynamically deallocating releasing at least one of the logical buses when no
23 longer needed to route a stream of audio wave data.

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2 **46. (original)** A method as recited in claim 45, wherein the audio
3 wave data generation component is a synthesizer.
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5 **47. (original)** A method as recited in claim 45, wherein the audio
6 wave data consumer component is a data buffer that performs an action of
7 buffering audio wave data.
8

9 **48. (original)** A method as recited in claim 45, wherein the audio
10 wave data consumer component performs an action of effects-processing the audio
11 wave data.
12

13 **49. (previously presented)** A method as recited in claim 45, further
14 comprising assigning a given one of the streams of audio wave data to a plurality
15 of different logical bus components.
16

17 **50. (original)** A method as recited in claim 45, further comprising
18 assigning one or more of the streams of audio wave data to the logical bus
19 component.
20

21 **51. (original)** One or more computer-readable media comprising
22 computer-executable instructions that, when executed, direct a computing system
23 to perform the method of claim 45.
24

1 **52. (currently amended)** A method, comprising:
2 receiving multiple streams of audio wave data;
3 dynamically defining generating logical buses in response to a need
4 associated with receiving the streams of audio wave data, the logical buses each
5 corresponding to an audio wave data consumer;
6 creating a data structure and designating which of the logical buses
7 correspond to an audio wave data consumer;
8 assigning at least one of the multiple streams of audio wave data to a
9 plurality of the logical buses;
10 routing an audio wave data stream assigned to a particular logical bus to the
11 audio wave data consumer corresponding to said particular logical bus; and
12 dynamically deallocating releasing at least one of the logical buses when no
13 longer needed.

14
15 **53. (original)** A method as recited in claim 52, wherein a plurality of
16 audio wave data streams are assigned to at least one of the logical buses.

17
18 **54. (original)** A method as recited in claim 52, wherein each logical
19 bus corresponds to a single audio wave data consumer.

20
21 **55. (original)** A method as recited in claim 52, wherein at least two
22 of the logical buses correspond to the same audio wave data consumer.

1 **56. (original)** One or more computer-readable media comprising
2 computer-executable instructions that, when executed, direct a computing system
3 to perform the method of claim 52.

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